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A NEW SPECIES OF *PYGMAEPTERYS* VOKES FROM THE WESTERN PACIFIC (GASTROPODA: MURICIDAE)

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ABSTRACT

A new species of Pygmaepterys, P. bellini, from off Okinawa and the Philippine Islands, is described. Comparison is made with P. funafutiensis (Hedley, 1899), and P. philclover (Houart, 1984), both western Pacific congeners.

Vokes (1978) erected *Pygmaepterys* as a subgenus of *Pterynotus* Swainson, 1833, describing this subgenus as small for a *Pterynotus*, with six winged varices, strong spiral cords and numerous axial lamellae; the aperture denticulate on the outer lip and "occasionally small denticles on the inner lip." She designated *Pygmaepterys alfredensis* (Bartsch, 1915) as the type species. *P. alfredensis* is a small six-mm specimen, very worn, with the early whorls and varices eroded. The shoulder is concave and the suture deeply impressed. There are 12 major cords on the body whorl. *P. alfredensis* is illustrated in Vokes (1978) pl. 7, figs. 1a, 1b, 2a and 2b and in Vokes and D'Attilio (1980) pl. 2, figs. 1a and 1b. The type locality is Port Alfred, South Africa. Apparently additional specimens have not been found of this species. Bartsch (1915) in his original description of *P. alfredensis* mentions no denticles on either the inner lip or the outer lip of the aperture.

Vokes and D'Attilio (1980) described three new species of *Pygmaepterys* and assigned one other species to the genus, but expressed some

doubts regarding the qualitative character of the inner lip denticles.

As a result of the species studied for this paper we have concluded that although denticles in the outer lip are a good character of the genus, *Pygmaepterys*, the presence or absence of nodes or denticles on the inner lip or columella is inconsistent.

The following abbreviations are used:
SDNHM – San Diego Natural History Museum
AMNH – American Museum of Natural History, New York.

Family Muricidae Rafinesque, 1815

Subfamily Muricopsinae

Radwin and D'Attilio, 1971

Genus *Pygmaepterys* Vokes, 1978

Type species: *Murex alfredensis* Bartsch, 1915, by original designation.

Pygmaepterys bellini new species

Figs. 1-4, 9, 12

Description: Shell small, fusiform; spire elongate with four convex post-nuclear whorls;



FIGS. 1 and 2. *Pygmaepterys bellini* D'Attilio and Myers. Dorsal (1) and apertural (2) views of holotype, SDNHM 83065. Okinawa, Japan. 9.9 mm \times 5.5 mm.

FIGS. 3 and 4. *Pygmaepterys bellini* D'Attilio and Myers. Dorsal (3) and apertural (4) views of paratype SDNHM 83067a. Philippine Islands. 12.0 mm \times 5.5 mm.

FIGS. 5 and 6. *Pygmaepterys philcloveri* (Houart, 1984). Dorsal (5) and apertural (6) views. SDNHM 83068. 13.7 mm \times 8.00 mm.

FIGS. 7 and 8. *Pygmaepterys funafutiensis* (Hedley, 1899). Dorsal (7) and apertural (8) views of specimen from the Donald Pisor collection. 12.0 mm \times 7.2 mm.

suture impressed. Protoconch of one and one-half smooth convex whorls, white in color. Aperture narrowly ovate; anal sulcus broadly U-shaped; inner lip mostly appressed except very slightly erect anteriorly with one strong node on columella at entrance to the canal; entire columella stained dark-brown. Outer lip wavy, reflecting the external spiral cords with six strong nodelike denticles within. Siphonal canal open, tapered and recurved. Three distal portions of previous canals terminate on siphonal fasciole. Six axial varices per whorl irregularly descend relative to axis of shell. A few well-defined erect lamellae occur between the varices and a few regularly-spaced translucent lamellae crowd against the leading side of the varix. These lamellae undulate over the spiral sculpture giving a scabrous appearance to the shell. Eleven strong regularly-spaced spiral cords with equally wide interspaces occur on the body whorl; intermediate minor spiral cords oc-

cur only on the varical flange. The color of shell varies from translucent white to white with one to three brown stripes on the body whorl.

Type Material: Holotype SDNHM 83065 from Okinawa, Ryukyu Islands, Japan (Figs. 1, 2, 9, 12). Paratype SDNHM 83066a and Paratype SDNHM 83066b from Okinawa. Paratype SDNHM 83067a from the G. Everson collection from Philippine Islands (Figs. 3, 4). Paratype SDNHM 83067b from B. Myers collection from Philippine Islands. Paratype AMNH 213704 from Okinawa.

Type Locality: 52 meters depth off Okinawa, Ryukyu Islands, Japan.

Dimensions (in mm):

	Length	Width
SDNHM 83065	9.9	5.5
SDNHM 83066a	10.2	4.8
SDNHM 83066b	7.9	4.9
SDNHM 83067a	12.0	7.0
SDNHM 83067b	9.9	5.5
AMNH 213704	8.0	4.5

Etymology: Named for Mr. Philip Bellin of Hawaii who first collected specimens off Okinawa, Japan.

Discussion: Of the six specimens studied, three have immature lips with no nodes or denticles. Paratype 83066a has six denticles on the outer lip and three nodes on the anterior wall of the columella. Paratype 83066b has seven denticles on the outer lip and one node on the columella at the entrance to the siphonal canal.

Comparison is made with *P. funafutiensis* (Hedley, 1899). See Table 1. The type specimen of *P. funafutiensis* is from Funafuti Atoll, Ellice Islands and is 9 mm in height. Specimens in the San Diego Natural History Museum, lot #71304, dredged from 183 m in Pokai Bay, Oahu, Hawaii, consist of four specimens, the larger of which is 9.8 mm × 6.2 mm and two fragments. Both the type specimen from Ellice Islands and the larger specimen from Hawaii are illustrated in Vokes and D'Attilio (1980), pl. 2, figs. 4, 5a and 5b. *P. funafutiensis* has a heavier coarser

shell with six axial varices and five postnuclear whorls. There are five strong spiral cords on the body whorl with wide interspaces, each interspace with five to seven incised lines. *P. bellini* has 11 regular, moderately strong cords with equal interspaces and intermediate cords only on the varical flange. Growth lamellae in *P. funafutiensis* are close-set and three to four times as numerous as in *P. bellini*. *P. funafutiensis* has five apertural denticles on the outer lip; the first and second denticles posteriorly are most prominent. *P. bellini* has six denticles of even strength. The columella of *P. funafutiensis* lacks any trace of the brown stain prominent in *P. bellini*. The color of *P. funafutiensis* is tan with a diffused brown band subsuturally and one at the base of the body whorl. A specimen of *P. funafutiensis* from the Philippine Islands in the collection of Donald Pisor of San Diego, California, measures 12 mm × 7.2 mm (Figs. 7, 8, 11, 14). This specimen does not differ in any essential respect from those from Hawaii except that

TABLE 1. Comparison of *Pygmaepterys bellini* new species, *P. philcloveri* Houart and *P. funafutiensis* (Hedley).

	<i>P. bellini</i>	<i>P. philcloveri</i>	<i>P. funafutiensis</i>
Color:	All white or white with brown bands and with brown stain on columella	Rust brown with pale brown band; columella white, no brown stain	Tan with brown band, columella white, no brown stain
Shape:	Fusiform, spire elongate	Fusiform, spire moderately elongate	Fusiform, spire moderately elongate
Size:	To 12.0 mm × 7.0 mm	To 13.7 mm × 8.0 mm	To 12.0 mm × 7.2 mm
Protoconch:	White, 1½ blunt whorls	Tan, 1¾ conical whorls	Brown, 1½ low depressed whorls
Postnuclear whorls:	Four	Five	Five
Varices:	Six, irregularly descending	Six, regularly descending	Six, regularly descending
Peristome:	Simple ovate, inner lip appressed slightly erect anteriorly	Irregularly ovate, inner lip erect, flattened posteriorly	Simple ovate, inner lip mostly appressed
Anal sulcus:	Shallow and broad	Moderately broad and deep	Broad and deep
Varical flange:	Very weakly lamellose reflecting the numerous spiral cords	Entirely scabrously lamellose reflecting the numerous spiral cords	Five deep grooves, reflecting the five strong spiral cords
Suture:	Impressed	Moderately impressed	Moderately impressed
Denticles:	Six on outer lip, one on columella	Six on outer lip, five on columella	Five on outer lip, two on columella
Growth lamellae:	A few erect lamellae appressed over the spiral cords	Numerous erect lamellae appressed over the spiral cords	Very numerous lamellae appressed over entire shell
Spiral cords:	Eleven moderately strong cords terminating at end of siphonal canal	Twelve major cords terminating at tube-like portion of siphonal canal	Five major cords followed by five minor cords terminating at end of siphonal canal

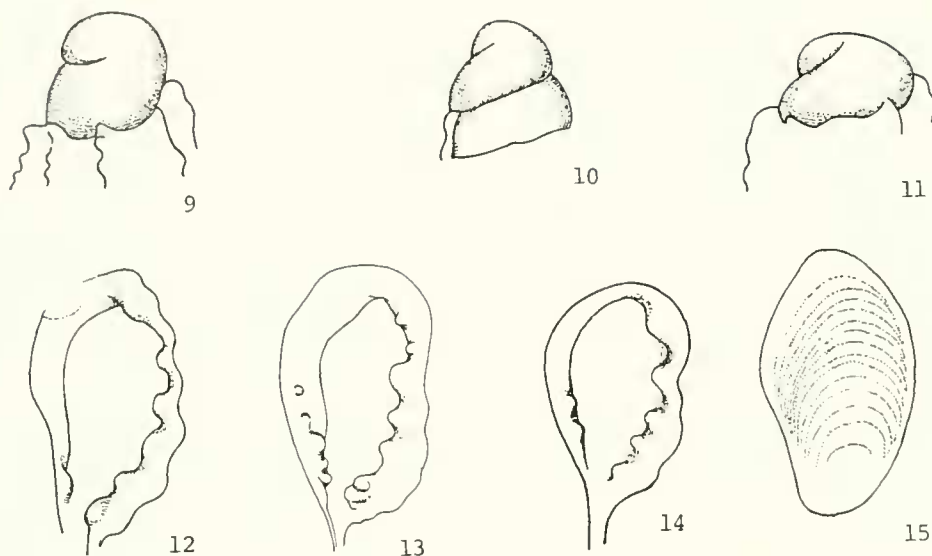


FIG. 9. Detail drawing of protoconch of *P. bellini*. Holotype SDNHM 83065.

FIG. 10. Detail drawing of protoconch of *P. philcloveri*. SDNHM 83068.

FIG. 11. Detail drawing of protoconch of *P. funafutiensis*. Donald Pisor collection.

FIG. 12. Detail drawing of aperture of *P. bellini*. Holotype

SDNHM 83065.

FIG. 13. Detail drawing of aperture of *P. philcloveri*. SDNHM 83068.

FIG. 14. Detail drawing of aperture of *P. funafutiensis*. Donald Pisor collection.

FIG. 15. Detail drawing of operculum of *P. philcloveri*. SDNHM 83068.

nodes on the columella number two instead of three.

A second new species of *Pygmaepterys* had been under study by us. A description of this species has recently been published by Houart (July, 1984). The description prepared by us follows:

***Pygmaepterys philcloveri* (Houart, 1984)**

1984 *Poirieria* (*Pazinotus*) *philcloveri* Houart, Informations, series 12, nos. 2, 3, pp. 127-130. (off Samal Id., Davao, Mindanao Id. Philippines).

Figs. 5, 6, 10, 13, 15

Description: Shell strongly fusiform, spire moderately elongate, suture moderately impressed. Protoconch of one and three-fourths conical, convex smooth, pale brown whorls; five post nuclear whorls. Anal sulcus u-shaped and deep. Inner lip appressed posteriorly, strongly erect two-thirds distance from siphonal canal; five elongate denticles occur on lower portion of columella, the most anterior denticle situated directly above the entrance to siphonal canal. Outer lip erect, wavy, reflecting the external spiral sculpture with six denticles arranged as follows: two small denticles posteriorly followed

by a very large denticle midway, two slightly smaller denticles below and a large bifid denticle above entrance to siphonal canal. Siphonal canal open, broad and tapering distally becoming recurved and tubelike. Three distal portions of previous canals terminate on siphonal fasciole. Seven axial varices on spire diagonally descend to the body whorl where the varices number only six. Varices blade-like continue above the shoulder and about the suture. Entire surface of shell with very fine scabrous close-set axial growth lamellae. Spiral sculpture of 12 cords starting at shoulder; first five prominent and somewhat spinose at the varical margins with prominent open spines at the shoulder; interspaces wide; remaining seven cords narrower and more close-set with diminishing interspaces. Operculum typically Muricopsinae.

Color: Rust-brown with a pale band starting at the shoulder and encompassing the first three cords. The rust-brown is much darker below the suture. The distal portion of the canal is gray-white and the aperture is white. Length of shell 13 mm.

Discussion: *P. philcloveri* in comparison with *P. bellini* has a slightly larger, more robust

shell. See Table 1. The shell is distinguished most significantly in the apertural characters. The aperture of *P. philcloveri* is irregularly ovate and the inner lip strongly erect over most of its length. There is a deep anal sulcus in comparison to the broad shallow sulcus of *P. bellini*. Although the number of denticles is the same, the arrangement and size differ in that *P. bellini* has six denticles of equal strength, while *P. philcloveri* has two small denticles posteriorly followed by a very large denticle midway on the outer lip with two smaller denticles following and one large bifid denticle above the entrance to the siphonal canal. *P. bellini* has six varices irregularly descending to the body whorl, while *P. philcloveri* has seven regularly descending axial varices on the spire reduced to six on the body whorl, the varix lacking is between the final varix and the preceding one. The entire surface of *P. philcloveri* consists of fine, strong, close-set scabrous lamellae in contrast to the few translucent erect lamellae of *P. bellini*. The overall brown stain on the columella of *P. bellini* is not found in *P. philcloveri*. *P. bellini* has a white shell with three brown bands and *P. philcloveri* has a rust brown shell with a pale brown band.

P. funafutiensis (Hedley, 1899) differs from *P. philcloveri* in the protoconch which is depressed and not conical. The inner lip of *P. funafutiensis* is mostly appressed, not erect as in *P. philcloveri* and there are five denticles on the outer lip of more or less equal strength in contrast to the six denticles of unequal size and strength of *P. philcloveri*. The spiral sculpture of *P. funafutiensis* consists of five very strong major cords with five minor cords while *P. philcloveri* has 12 strong major cords. The growth lamellae of *P. funafutiensis* are very numerous and appressed over the entire shell, whereas in *P. philcloveri* the lamellae are erect and only appressed over the spiral cords. The leading side of the apertural varix of *P. funafutiensis* has five strong concave troughs, a reflection of the strong ex-

terior cords. The apertural varix of *P. philcloveri* is regularly wavy reflecting the spiral cords.

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